MARINE CORPS
WARFIGHTING LABORATORY

SMALL UNIT SENSOR SYSTEM

fact sheet

The Small Unit Sensor System (SUSS), formerly known as the Local Area Security System, is a tactical, man-portable, unattended, ground-sensor system that extends the eyes and ears of a small unit by observing tactical objects and danger areas beyond the unit's line of sight. SUSS will provide real-time, "around-the-corner" imagery directly to the small-unit leader to increase situational awareness for both short and extended periods of time.

Background: Tactical, small units rely on their eyes and ears for situational awareness and Reconnaissance, Surveillance and Target Acquisition (RSTA) information. In today's modern battle space, where potential enemies understand the U.S. strengths and capitalize on the asymmetric nature of urban areas, small-unit leaders will increasingly enter these hostile environments and encounter life-threatening situations. The Lab recognized that tactical units need a small, low-risk capability to conduct RSTA and enhance small-unit situational awareness to reduce danger to Marines. SUSS aims to address a number of these requirements. SUSS is a complementary set of unattended ground sensors to be used with the Dragon Runner mobile, ground-sensor system, providing both a mobile and stationary suite of remote devices Marines can use to provide critical and timely information. SUSS is managed and funded by the Lab and the prototype system is being developed by the National Robotics Engineering Consortium at Carnegie Mellon University's Robotics Institute.

Description: SUSS will be a lightweight and ready-to-use-as-delivered sensor system, requiring little formal operator training. A complete prototype system consists of three sensor heads and one operator control system (OCS) that includes a handheld controller. Both the Dragon Runner and SUSS will use the same control system. Marine units will use either mobile or fixed sensors depending on the mission. SUSS sensor heads are comprised of video, audio and motion sensors and will have the ability to pan, tilt and zoom. Sensor heads will possess day and night imagery capability with real-time video. The system will be small and rugged, designed for quick deployment and carried in the same custom backpack used for Dragon Runner. The SUSS will enable a Marine to remotely see and hear, both day and night, and receive audible and tactile alerts when the sensor is triggered. The entire system will be battery-powered and configured to accept additional battery power for extended monitoring missions. Future development of SUSS may include a remote, fixed, extended-period monitoring station, integration of other sensing devices used with the electro-optical SUSS sensor to extend overall sensing coverage and the integration of lethal or non-lethal devices.

Deliverable Product: A prototype SUSS with three sensor heads and an OCS will be used for initial concept validation and experimentation in fiscal year 2005.

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